

Current Status of All Claims in the Application:

1. (Previously Presented) A guide assembly for reducing lateral movement of a storage tape in a tape drive, the guide assembly comprising:

a rotatable first roller including a perimeter surface, a circumference, a longitudinal axis and a groove disposed into the perimeter surface, the groove having a groove length in a direction substantially along the circumference, and a groove bottom that is substantially linear in a direction along the groove length.

2. (Original) The guide assembly of claim 1 wherein the first roller includes a plurality of spaced-apart grooves, each of the grooves having a groove length that is less than the circumference.

3. (Original) The guide assembly of claim 2 wherein the grooves are aligned substantially parallel to the circumference.

4. (Original) The guide assembly of claim 3 wherein the grooves are semi-randomly distributed on the perimeter surface.

5. (Original) The guide assembly of claim 2 wherein the groove length for at least one of the grooves is between approximately 0.1 percent (0.1%) and ninety percent (90%) of the circumference.

6. (Original) The guide assembly of claim 2 wherein the groove length for at least one of the grooves is between approximately one percent (1%) and fifty percent (50%) of the circumference.

7. (Original) The guide assembly of claim 2 wherein the groove length of at least one of the grooves is between approximately 0.01 inches and 1.5 inches.

8. (Original) The guide assembly of claim 2 wherein the percentage of the perimeter surface onto which grooves are disposed is in the range of between approximately one percent (1%) and forty percent (40%).

9. (Original) The guide assembly of claim 2 wherein the percentage of the perimeter surface onto which grooves are disposed is in the range of between approximately one percent (1%) and twenty-five percent (25%).

10. (Original) The guide assembly of claim 1 further including a roller mount, wherein the roller is rotatably mounted on the roller mount approximately on at least a portion of the longitudinal axis of the first roller.

11. (Currently Amended) The guide assembly of claim 1 wherein ~~at least one~~ of the ~~grooves~~ groove has a groove depth that varies between approximately zero inches and 0.02 inches along the length of each the groove.

12. (Original) The guide assembly of claim 1 further comprising a second roller including a perimeter surface, a circumference, a longitudinal axis and a groove disposed into the perimeter surface, the groove having a groove length that is less than the circumference.

13. (Original) A tape drive including the guide assembly of claim 1, a take-up reel and a head assembly.

14. (Previously Presented) A guide assembly for reducing lateral movement of a magnetic tape in a tape drive, the guide assembly comprising:

a first roller including a perimeter surface, a circumference, a longitudinal axis and a plurality of discontinuous grooves disposed into the perimeter surface, one of the grooves having a groove depth that varies in a direction along a length of the groove.

15. (Previously Presented) The guide assembly of claim 14 wherein each of the grooves has a groove depth that varies along the length of the groove.

16. (Original) The guide assembly of claim 15 wherein the groove length of at least one of the grooves is between approximately 0.1 percent (0.1%) and ninety percent (90%) of the circumference.

17. (Original) The guide assembly of claim 15 wherein the groove length of at least one of the grooves is between approximately one percent (1%) and fifty percent (50%) of the circumference.

18. (Original) The guide assembly of claim 15 wherein the percentage of the perimeter surface onto which grooves are disposed is in the range of between one percent (1%) and forty percent (40%).

19. (Original) The guide assembly of claim 15 wherein the percentage of the perimeter surface onto which grooves are disposed is in the range of between one percent (1%) and twenty-five percent (25%).

20. (Original) The guide assembly of claim 15 wherein each of the grooves is aligned substantially parallel to the circumference.

21. (Original) The guide assembly of claim 15 wherein the grooves are semi-randomly distributed on the perimeter surface.

22. (Original) The guide assembly of claim 14 further comprising a second roller including a perimeter surface, a circumference, a longitudinal axis and a groove disposed into the perimeter surface, the groove having a groove depth that varies along the length of the groove.

23. (Original) The guide assembly of claim 14 wherein the groove depth varies between approximately zero inches and 0.05 inches.

24. (Original) A tape drive including the guide assembly of claim 14 and a take-up reel and a head assembly.

25. (Original) A guide assembly for reducing lateral movement of a magnetic tape of a tape drive, the guide assembly comprising:

a first roller having a perimeter surface, a circumference and a plurality of spaced-apart discontinuous grooves disposed into the perimeter surface, each groove being positioned substantially parallel to the circumference of the roller, each groove having (i) a groove depth that varies between approximately zero inches and 0.02 inches, (ii) a groove length of between approximately 0.1 inches and 0.3 inches, and (iii) a groove width of between approximately 0.005 inches and 0.015 inches.

26. (Previously Presented) A method of manufacturing a tape roller of a guide assembly for a tape drive, the method comprising the steps of:

providing a rotatable roller having a circumference and a perimeter surface; and

forming a groove into the perimeter surface so that the groove is tapered to have a groove depth that varies in a direction along a length of the groove.

27. (Original) The method of claim 26 wherein the step of forming a groove includes forming a plurality of spaced-apart grooves into the perimeter surface so that each groove has a groove length that is less than the circumference.

28. (Original) A method of manufacturing a roller for use in a guide assembly of a tape drive, the method comprising the steps of:

providing a roller portion having a circumference and a perimeter surface;
and

forming a groove into the perimeter surface so that the groove has a groove depth that varies along the length of the groove.

29. (Original) The method of claim 28 wherein the step of forming a groove includes forming a plurality of spaced-apart grooves into the perimeter surface so each groove has a groove depth that varies along the length of the groove.

30-33. (Canceled)

34. (Previously Presented) A guide assembly for reducing lateral movement of a storage tape in a tape drive, the guide assembly comprising:

a first roller including a perimeter surface, a circumference, a longitudinal axis and a groove disposed into the perimeter surface, the groove having a groove length that is less than the circumference, and a groove depth that varies between approximately zero inches and 0.02 inches along the length of the groove.

35. (Previously Presented) The guide assembly of claim 1 wherein the percentage of the perimeter surface onto which grooves are disposed is greater than 30 percent.

36. (Previously Presented) A method of manufacturing a tape drive, the method comprising the step of:

rotatably mounting a tape roller to a drive housing of the tape drive, the tape roller including a groove having a groove depth that varies over a length of the groove.

37. (Previously Presented) The method of claim 36 wherein the groove has a

groove bottom that is substantially linear in a direction along a circumference of the tape roller.

38. (Previously Presented) The method of claim 37 wherein a portion of the groove bottom is substantially planar.

39. (Previously Presented) The guide assembly of claim 34 wherein the groove length is between approximately 0.1 percent and 90 percent of the circumference.

40. (Previously Presented) The guide assembly of claim 34 wherein the groove is aligned substantially parallel to the circumference.

41. (Previously Presented) A tape drive including a drive housing and the guide assembly of claim 34 that is coupled to the drive housing.

42. (Previously Presented) The method of claim 36 wherein the step of rotatably mounting includes forming the groove into a perimeter surface so that the groove has a groove length that is less than a circumference of the tape roller.